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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,254	12/30/2000	Wolfgang Roesner	AUS920000228US1	7483

7590 01/04/2005  
Bracewell & Patterson, L.L.P.  
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P O Box 969  
Austin, TX 78767-0969

EXAMINER

GARCIA OTERO, EDUARDO

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/752,254

Applicant(s)

ROESNER ET AL.

Examiner

Eduardo Garcia-Otero

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5,6 and 10-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6 and 10-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION: Final**

***Introduction***

1. Title is: HIERARCHICAL PROCESSING OF SIMULATION MODEL EVENTS.
2. First named inventor is: ROESNER.
3. Claims 1-3, 5-6, and 10-16 are pending.
4. Claims 1 and 6 and 13 are independent.
5. US application filing date is 12/30/2000, no earlier priority is claimed.
6. Applicant's Amendment and Terminal Disclaimer were received 9/7/04.

***Index of Important Prior Art***

7. *Smith* refers to "HDL Chip Design" by Douglas J. Smith, 1996, ISBN 0-9651934-3-8, Chapter 5 "Structuring a Design" pages 113-130.
8. *MS Dictionary* refers to Microsoft Computer Dictionary, Fourth Edition, by Microsoft Press, JoAnne Woodcock as Senior Contributor, ISBN 0-7356-0615-3, May 1999, pages 96-97.
9. *Bargh* refers to US Patent 6,195,627.
10. *Rostoker* refers to US Patent 6,470,482.

***Definitions***

11. IEEE Dictionary refers to The Authoritative Dictionary of IEEE Standards and Terms, Seventh Edition, by IEEE Press, ISBN 0-7381-2601-2, 2000:
  - **"comment (software)"** is defined as "Information embedded within a computer program, job control statements, or a set of data, that provides clarification to human readers, but does not affect machine interpretation."
  - **"comment source statements"** is defined as "Source statements that provide information to people reading the software source code and are ignored by the compiler".
12. Computer Desktop refers to The Computer Desktop Encyclopedia, by Alan Freedman, AMACOM, 1996, ISBN 0-8144-012-4:
  - **"comment"** is defined as "A descriptive statement in a source language program that is used for documentation."

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13. MS Dictionary refers to Microsoft Computer Dictionary, Fourth Edition, by Microsoft Press, JoAnne Woodcock as Senior Contributor, ISBN 0-7356-0615-3, May 1999:

- **“comment”** is defined as “Text embedded in a program for documentation purposes. Comments usually describe what the program does, who wrote it, why it was changed, and so on. Most programming languages have a syntax for creating comments so that they can be recognized and ignored by the compiler or assembler. Also called remark. See also comment out.”

*Applicant's Remarks*

14. SPECIFICATION. The prior objections to the Specification have been overcome by Applicant's amendments.
15. DOUBLE PATENTING. Applicant's terminal disclaimer is received, and the prior double patenting rejection is withdrawn. See 37 CFR 1.321(c), and 37 CFR 1.130(b), and 37 CFR 3.73(b).
16. 35 USC 112 REJECTIONS. Applicant has overcome the prior rejections by amendment. However, new 35 USC 112 rejections are provided below for the amended claims.
17. CLAIM INTERPRETATION. Remarks page 8. Applicant asserts that the claim 1 term **“instrumentation entity”** is structurally and functionally distinct from a conventional **“design entity”** as described by *Smith*.
18. However, Claim 1 uses the term **“design entities”** in the preamble, and the term **“instrumentation entity”** in the limitations, so these appear somehow related. Design entities appears to be a very broad term, and **“instrumentation entities”** appears to be a subset. Please clarify.
19. PRIOR ART CLAIM REJECTIONS. Remarks page 9. Applicant asserts the claims use comment syntax in a non-conventional manner:
- “as essentially being a pre-pended flag that enables the HDL compiler and instrumentation load tool to recognize and distinguish between **“design entities”** and **“instrumentation entities,”** and is therefore not equivalent to the MS dictionary definition. Namely the HDL compiler does not connectively instantiate instrumentation entities during compilation of the simulation model. Instead, the HDL compiler responds to the non-conventional syntax designating an instrumentation entity by installing a proto of the

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entity in memory and leaving the connective integration of the instrumentation entity (instantiation of instrumentation entities using input port mapping) to the instrumentation load tool. In this manner, the model can be "instrumented" without the designated instrumentation entities becoming incorporated into the compiled HDL design."

20. Please define the terms "pre-pended flag" and "proto". These terms are not in the Microsoft Computer Dictionary.

***35 USC § 101- Ex parte Lyell-2 classes claimed***

21. 35 U.S.C. 101 reads as follows: Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.
22. Claims 1-3, 5-6, and 10-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
23. The claim 1 (currently amended) preamble states "A data structure stored on a computer-readable medium for use... said data structure comprising", and appears to be a "machine" (or alternately a "manufacture") type claim per 35 USC 101.
24. However, the first limitation states "processed by a post-compiler instrumentation load tool to instantiate" and "recognized by an HDL compiler" and "compiler does not instantiate" and "generated by" and "responsive to one or more input signals" and so forth. These appear to be "process" type limitations.
25. The second limitation is similar to the first limitation.
26. Thus, claim 1 (currently amended) is rejected as non-statutory because it embraces or overlaps two different statutory classes of invention.
27. Claims 2-3, 5-6, and 10-16 are rejected for the same reasons as claim 1 (currently amended).
28. See MPEP 2173.05(p)(II), which states:  
A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. In *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990), a claim directed to an automatic transmission workstand and the method steps of using it was held to be ambiguous and properly rejected under 35 U.S.C. 112, second paragraph.  
Such claims should also be rejected under 35 U.S.C. 101 based on the theory that the

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claim is directed to neither a "process" nor a "machine," but rather embraces or overlaps two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. Id. at 1551.

29. Also see MPEP 2106 regarding computer related inventions.

***35 USC § 112-Second Paragraph-indefinite claims***

30. The following is a quotation of the second paragraph of 35 U.S.C. 112: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
31. Claims 1-3, 5-6, and 10-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
32. Claims 1-3, 5-6, and 10-16 are indefinite because they embrace or overlap two different statutory classes of invention, see 35 USC 101 rejections above.
33. Please note that claim 1 (currently amended) first limitation comprises 12 lines and 3 commas. For clarity, the Examiner suggests (but does not require) using more indentations to show the hierarchical relationship of the internal parts of claim 1 first limitation. A more hierarchical or structured format will assist in overcoming the rejections under 35 USC 101 and 35 USC 112.

**Response to Amendments or new IDS-FINAL OFFICE ACTION**

34. Applicant's amendments or new IDS necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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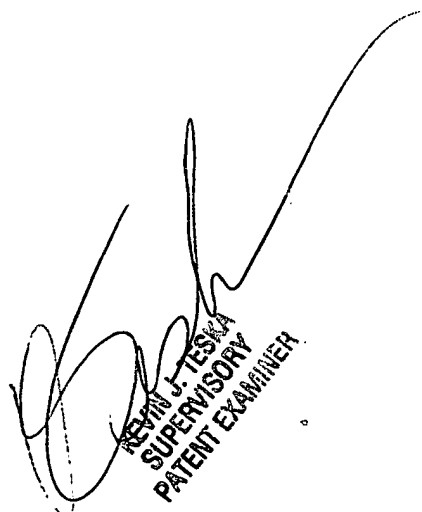
***Conclusion***

35. All claims stand rejected under 35 USC 101 and 35 USC 112.
36. For clarity, the Examiner suggests (but does not require) using more indentations to show the hierarchical relationship of the internal parts of claim 1 first limitation. A more hierarchical or structured format will assist in overcoming the rejections under 35 USC 101 and 35 USC 112.

***Communication***

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Garcia-Otero whose telephone number is 571-272-3711. The examiner can normally be reached on Monday through Thursday from 9:00 AM to 8:00 PM. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at 571-272-3761. The fax phone number for this group is 703-872-9306.

\* \* \* \*



KEVIN J. TESKA  
SUPERVISORY  
PATENT EXAMINER